ONSET

RXMOD-W1

RX3000 Water Level Sensor Module

The RX3000 Water Level Sensor Module (RXMOD-W1) offers users the ability to monitor water level, pressure, and temperature, as well as barometric pressure, with the HOBO RX3000 Remote Monitoring Station. It is configured through HOBOlink, Onset's cloud-based software. For water level applications, a HOBO RX3000 station, water level sensor cable (CABLE-RWLMOD-XXX), and water level sensor (MX2001-0X-S or MX2001-0X-Ti-S) are required.

Supported Measurements:

Barometric Pressure, Differential Pressure, Water Flow, Water Level and Water Temperature

Key Advantages:

- Integrated barometric pressure sensor
- Plug-and-play remote water level and flow monitoring

RXMOD-W1 Specifications

Pressure (Absolute) and Water Level Measurements MX2001-01-S and MX2001-01-Ti-S	
Operation Range	0 to 207 kPa (0 to 30 psia); approximately 0 to 9 m (0 to 30 ft) of water depth at sea level, or 0 to 12 m (0 to 40 ft) of water at 3,000 m (10,000 ft) of altitude
Factory Calibrated Range	69 to 207 kPa (10 to 30 psia), 0 to 40C (32 to 104F)
Burst Pressure	310 kPa (45 psia) or 18 m (60 ft) depth
Water Level Accuracy*	Typical error: 0.05% FS, 0.5 cm (0.015 ft) water Maximum error: 0.1% FS, 1.0 cm (0.03 ft) water
Raw Pressure Accuracy**	0.3% FS, 0.62 kPa (0.09 psi) maximum error
Resolution	<0.02 kPa (0.003 psi), 0.21 cm (0.007 ft) water
Pressure Response Time (90%)***	<1 second at a stable temperature
Pressure (Absolute) and Water Level Measurements MX2001-02-S	
Operation Range	0 to 400 kPa (0 to 58 psia); approximately 0 to 30.6 m (0 to 100 ft) of water depth at sea level, or 0 to 33.6 m (0 to 111 ft) of water at 3,000 m (10,000 ft) of altitude
Factory Calibrated Range	69 to 400 kPa (10 to 58 psia), 0 to 40C (32 to 104F)
Burst Pressure	500 kPa (72.5 psia) or 40.8 m (134 ft) depth
Water Level Accuracy*	Typical error: 0.05% FS, 1.5 cm (0.05 ft) water Maximum error: 0.1% FS, 3.0 cm (0.1 ft) water
Raw Pressure Accuracy**	0.3% FS, 1.20 kPa (0.17 psi) maximum error
Resolution	<0.04 kPa (0.006 psi), 0.41 cm (0.013 ft) water
Pressure Response Time (90%)***	<1 second at a stable temperature
Pressure (Absolute) and Water Level Measurements MX2001-03-S	
Operation Range	0 to 850 kPa (0 to 123.3 psia); approximately 0 to 76.5 m (0 to 251 ft) of water depth at sea level, or 0 to 79.5 m (0 to 262 ft) of water at 3,000 m (10,000 ft) of altitude
Factory Calibrated Range	69 to 850 kPa (10 to 123.3 psia), 0 to 40C (32 to 104F)
Burst Pressure	1,200 kPa (174 psia) or 112 m (368 ft) depth
Water Level Accuracy*	Typical error: 0.05% FS, 3.8 cm (0.125 ft) water Maximum error: 0.1% FS, 7.6 cm (0.25 ft) water
Raw Pressure Accuracy**	0.3% FS, 2.55 kPa (0.37 psi) maximum error
Resolution	<0.085 kPa (0.012 psi), 0.87 cm (0.028 ft) water
Pressure Response Time (90%)***	<1 second at a stable temperature
Pressure (Absolute) and Water Level Measurements MX2001-04-S and MX2001-04-Ti-S	
Operation Range	0 to 145 kPa (0 to 21 psia); approximately 0 to 4 m (0 to 13 ft) of water depth at sea level, or 0 to 7 m (0 to 23 ft) of water at 3,000 m (10,000 ft) of altitude
Factory Calibrated Range	69 to 145 kPa (10 to 21 psia), 0 to 40C (32 to 104F)
Burst Pressure	310 kPa (45 psia) or 18 m (60 ft) depth
Water Level Accuracy*	Typical error: 0.075% FS, 0.3 cm (0.01 ft) water Maximum error: 0.15% FS, 0.6 cm (0.02 ft) water
Raw Pressure Accuracy**	0.3% FS, 0.43 kPa (0.063 psi) maximum error
Resolution	<0.014 kPa (0.002 psi), 0.14 cm (0.005 ft) water
Pressure Response Time (90%)***	<1 second at a stable temperature
Barometric Pressure	
Operation Range	66 to 107 kPa (9.57 to 15.52 psia)
Temperature Calibrated Range	-20 to 50°C (-4 to 122°C)
Accuracy	±0.2 kPa (±0.029 psi) over full temperature range at fixed pressure; maximum error ±0.5% FS
Water Level Accuracy*	Typical error: ±0.075% FS, 0.3 cm (0.01 ft) water Maximum error: ±0.15% FS, 0.6 cm (0.02 ft) water
Resolution	<0.01 kPa (0.0015 psi)

Response Time	<1 second at a stable temperature
Stability (Drift)	<0.01 kPa (0.0015 psi) per year
Water Level Sensor and Cable	
Dimensions	Sensor (MX2001-0x-S and MX2001-0x-Ti-S): 2.54 cm (1.0 inches) diameter, 9.91 cm (3.9 inches) length Cable (CABLE-RWL-xxx): 0.47 cm ±0.03 (0.185 inches ±0.01) diameter, 0.2 to 400 m (0.65 to 1,312 ft) length **Note:** The length of the water level logger cable can vary -0% to +3% +10 cm (3.9 inches) from the length ordered.
Weight	Stainless sensor (MX2001-0x-S): Approximately 106 g (3.74 oz) in air; approximately 53.9 g (1.9 oz) in fresh water Titanium sensor (MX2001-0x-Ti-S): Approximately 80 g (2.83 oz) in air; approximately 37 g (1.3 oz) in fresh water Cable (CABLE-RWL-XXX): 39 g (1.38 oz) per 1 meter (3.28 ft)
Materials	Stainless sensor (MX2001-0x-S): Acetal housing, Viton and Buna-N O-rings, ceramic sensor in stainless steel end cap Titanium sensor (MX2001-0x-Ti-S): Acetal housing, Viton and Buna-N O-rings, ceramic sensor in Titanium end cap Cable (CABLE-RWL-XXX): Polycarbonate end cap, PVC end cap, polycarbonate collar nut, Viton O-rings, polyurethane jacket

* Water Level Accuracy: With accurate reference water level measurement, known water density, and a stable temperature environment. System Water Level Accuracy equals the sum of the Barometric Water Level Accuracy plus the selected sensor Water Level Accuracy.

** Raw Pressure Accuracy: Absolute pressure sensor accuracy includes all sensor drift, temperature, and hysteresis-induced errors.

*** Changes in Temperature: Allow 20 minutes in water to achieve full temperature compensation of the pressure sensor. There can be up to 0.5% of additional error due to rapid temperature changes.

Measurement accuracy also depends on temperature response time.